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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/807,574 | 03/18/2004 | Christopher R. Karabin | 95,919 | 4133 |

7590 07/28/2005

Office of Counsel Code OC4
Naval Surface Warfare Center
Indian Head Division
101 Strauss Ave., Bldg. D-31
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| EXAMINER | |
|---|---|
| ISSING, GREGORY C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3662 | |

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/807,574 | KARABIN ET AL. | |
| | Examiner | Art Unit | |
| | Gregory C. Issing | 3662 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 April 2005 and 13 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 9-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 9 –17 are non-enabling since the specification fails to provide an enabling disclosure for calculating an impact location solely from acoustic signature captures, particularly in light of an "equation" that apparently uses location and time data.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The language "wherein the location process comprises a calculated accumulated error computed from a calculated impact location entered into an equation for said acoustic analysis system of each said buoy where an output is a residual for said equation" is not understood and is indefinite.

6. The "calculated accumulated error" is not clear. Applicants' arguments appear to indicate that this is referenced to the location of the buoy as opposed to the location of the impact. It is not clear what is accumulated if this refers to a single buoy. The arguments repeatedly state "accumulated error is calculated by summing a residual values for each buoy"; are there a plurality of residual values for each buoy or are there plurality of residuals, one for each buoy, summed/accumulated?

7. The claim is indefinite since the "equation" is not defined in the claims and it is not clear from a reading of the specification what this equation is or represents. The language "where an output is a residual for said equation" is indefinite since it is unclear what the "output" is or represents; according to the specification there is one residual per equation and the number of equations equals the number N of buoys. Lastly, according to the specification the "calculated accumulated error" is merely an indication of

the quality of the location determined from the location process, how is an indication of quality "entered into an equation"? Moreover, the specification states that when the number N equals three, i.e. the number of buoys equals three, there is no accumulated error (page 10) and thus operation of the step is not understood.

8. In each of claims 5 and 7, the cancellation of "4" is not clearly shown. In claim 9, the language "the portable maritime scoring and simulation system" is indefinite since it lacks a proper antecedent basis.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Stotts et al.

11. As definite, Stotts et al disclose the claimed system including a system that determines the location of objects that impact the ocean surface including a plurality of sonobuoys equipped with GPS receivers that self-locate their position and are arranged in an area, see Figure 1 and wherein impact location is determined using time of arrival matching schemes. According to Stotts et al, specific minimization error terms calculated in the localization routine help identify the arrival structure. The localization process consisted of the buoys capturing the shots on all receivers, measuring the leading edge of arrivals and the buoy GPS positions. An iterative approach constrains the solution wherein resulting solutions are ordered from least to greatest minimization error wherein the minimization errors for the results are ordered and the process repeated each time taking half of the number previously used.

12. The applicants argue that Stotts et al fail to disclose the claimed location process. Firstly, there is nothing in claim 1 about "real-time data." Secondly, it is not clear how the use of captured buoy data and GPS position data is not real-time in the calculation of impact location. In view of the inclarity of the

language particularly related to the argued subject matter with regard to the "equation" and the "output", Stotts et al meets the claim language, as definite of claim 1.

13. Regarding claim 9, an art rejection is not possible in light of the non-enabling disclosure of the claims as presently amended. Error minimization techniques are taught by Stotts et al including use of the minimum value of a least square type error between real arrival times and modeled arrival times resulting in an umambiguous location within limits of a chosen grid spacing wherein the value is ccalculated by picking one receiver as a reference and summing the timing errors of the remaining receivers relative to the reference. Successive iterations with finer grid spacings result in a desired accuracy. It is not clear how this iteration differs from the iterations provided by entering information into an equation after a calculated impact location is determined as in the present subject matter.

14. The rejections over Landis , Dunaway, Erwin, and Navy Newstand are withdrawn since they are all drawn to the IMPASSE system, substantially shown in Stotts et al, over which the instant subject matter is an alleged improvement via its use of a location process using a calculated accumulated error, which if the specification and claims can be written and shown to adequately disclose and set forth, do not appear to be shown by the references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory C. Issing
Primary Examiner
Art Unit 3662

gci